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ANNUAL REPORT
OF THE
RESIDENT PHYSICIAN

OF THE
CITY OF NEW YORK,
FOR 1865.



PRESENTED TO THE
BOARD OF COMMISSIONERS OF HEALTH,

At their Meeting, January 4, 1866.

NEW YORK:

EDMUND JONES & CO., PRINTERS TO THE CORPORATION,

No. 26 JOHN STREET.

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1865

## REPORT.

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MAYOR'S OFFICE,  
NEW YORK, February 28, 1866. }

*To the Honorable the Common Council :*

GENTLEMEN—I have the honor to transmit herewith a certified copy of a resolution adopted by the Board of Commissioners of Health, at a meeting held on the 27th instant, as well as a copy of the report of the Resident Physician alluded to therein.

Very respectfully,

JOHN T. HOFFMAN,

*Mayor.*

### RESOLUTION.

*Whereas*, The Board of Commissioners of Health has no authority to expend money, even for the publication of its own transactions ; and

*Whereas*, There are frequent and almost daily letters received from distant cities, asking for information and records of the proceedings ; and

*Whereas*, The annual report of the Resident Physician, Dr. Sayre, contains a great amount of useful information, which would properly answer such inquiries ; therefore, be it

*Resolved*, That this Board request the Common Council to publish five thousand of said report in pamphlet form for general distribution, the same, when printed, to be delivered to the Mayor, at the Mayor's office.

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NEW YORK, January 4, 1866.

*To Honorable John T. Hoffman, Mayor, and President of the Board of Commissioners of Health :*

SIR—I present the following report as the result of a portion of the duties performed in the office of the Resident Physician, during the year ending the 31st of December, 1865 :

To the Emigrant Hospital, Ward's Island, have been sent the following cases of contagious or infectious diseases :

| 1865.            | TYPHUS FEVER. | MEASLES. | SCARLET FEVER. | SMALL-POX. | TOTAL. |
|------------------|---------------|----------|----------------|------------|--------|
| January .....    | 28            | ..       | ..             | 20         | 58     |
| February .....   | 38            | 1        | ..             | 43         | 82     |
| March.....       | 39            | 2        | 1              | 45         | 87     |
| April .....      | 85            | ..       | 2              | 20         | 57     |
| May.....         | 53            | 18       | 1              | 25         | 97     |
| June .....       | 60            | 3        | 1              | 10         | 74     |
| July.....        | 61            | 1        | 1              | 8          | 71     |
| August .....     | 84            | 1        | ..             | 2          | 87     |
| September .....  | 81            | 1        | ..             | 2          | 84     |
| October.....     | 72            | 1        | ..             | ..         | 73     |
| November .....   | 79            | 1        | ..             | 5          | 85     |
| December.....    | 41            | 3        | ..             | 2          | 46     |
| Grand Total..... | 671           | 32       | 6              | 192        | 901    |

These patients, being emigrants of less than five years' residence, are cared for by the Commissioners of Emigration, and that amount of expense is, therefore, saved to the city tax.

## SMALL-POX, &amp;C.

At the Small-pox Hospital on Blackwell's Island,  
there were remaining with that disease on the 1st of  
December, 1864, . . . . . 45

Admitted during the year ending December

1, 1865, . . . . . 1,151

————— 1,196

Number who died from December 1, 1864,

to December 1, 1865, . . . . . 163

Number discharged in same time, . . . . 1,009

————— 1,172

Number remaining December 1, 1865, . . . . . 24

The number of cases here shown, although frightfully large, is but a very small portion of what have actually occurred in the city within the past year. As much the larger portion of cases positively refuse to go to the hospital, and I have no legal authority to compel them to go, these figures do not give a correct idea of the extent of this disease among us. But it seems to me they are sufficiently great to speak in trumpet tongue to our legislators, and urge upon them the absolute necessity of immediately enacting a law for "compulsory vaccination," by which means this terrible scourge can be effectually exterminated from our country, if its provisions are universally adopted; and I have no doubt that, if New York will but take the initiative, each State and the General Government will soon follow her good example. I have so frequently urged this matter upon the proper authorities, with statistics and proofs which seemed to me to be convincing, that I have nothing new to add upon the subject, but most respectfully beg to refer to my former report

in 1862, and entreat that some efficient law be at once enacted, by which the power may be granted to expel this disease from the city.

#### STREETS AND SEWERS.

Our streets and sewers, until within the last few weeks, have been in much better condition than for some years past, but very far from being in as good sanitary condition as they should be, and at the present time are disgraceful. In fact, many of the streets must be entirely repaired before they can be kept clean, and our entire system of sewerage changed and vastly improved before we can give to the city the proper drainage necessary for health, and which, owing to our peculiar geographical position, can be so easily and efficiently done.

I shall in a short time lay before the Board, for consideration, a plan or system of sewerage, which I trust will not only accomplish the object desired, viz., perfect drainage, but at the same time prevent the waste of valuable material, which is now choking up our slips and rapidly destroying the harbor, and convert it into a fertilizer, adapted for useful purposes, and which will yield sufficient revenue to the city to pay an interest on the investment requisite to make the improvement.

#### TENEMENT HOUSES.

I have so often described the condition of our tenement-house population, and so earnestly appealed to our legislative authorities for the enactment of a law by which the construction of our buildings should be regulated by sanitary science, without effect, that I



almost despair of ever being able to reach the practical good which I have so long desired. Still, in the discharge of my duty, I must again narrate facts which are patent to every observer, and urge with additional zeal upon the authorities the absolute necessity of some legal enactment by which the construction of all tenement-houses, with special reference to limiting the number of inhabitants and the ventilation, shall be placed under the regulation and direction of some properly qualified sanitary inspector.

At present most of the tenement-houses in this city are absolutely unfit for occupation ; and they may be divided into three classes : First, those which, by a slight modification and improvement in ventilation, can be made habitable ; second, those that, by reconstruction and a limited number of tenants, can be made healthful ; and, third, those which by no possibility could be made so, except by destruction and rebuilding. As they are now, they are the pest-holes that breed typhoid and typhus fever, not only destroying the inhabitants within their walls, but becoming the sources of its propagation to other and more respectable parts of the city.

We have at the present time laws prescribing the proper thickness for walls in proportion to the height of the building, that the danger of their falling down may be prevented. How much greater the necessity for a proper regulation in regard to ventilation. How many persons have died from the effects of falling walls in this city, for the last ten years, except from fires ! As far as I have been able to ascertain from the statistics, there are less than five a year. And how

many thousands have been murdered by breathing the poisonous atmosphere of the ill-ventilated houses, or houses in which there is no ventilation at all ! Where a falling wall has claimed its one victim, these pest-holes of foul air have claimed their thousands. I would, therefore, again urge upon the proper authorities the necessity of enforcing, by legal enactment, the arrest of this frightful mortality.

#### CHOLERA.

The cholera, which has arrived within our harbor, and has been so near our shores within a few weeks past, was anchored in the bay, and detained there. The city, which was ripe for its reception, with its filthy streets, its over-crowded tenement-houses, its obstructed sewers, the decaying animal and vegetable matter, and with the peculiar condition of climate, ready to spread its infectious influences into an epidemic, has thus been preserved from its ravages by the rigid enforcement of quarantine regulations. A system or plan which has shown such good results is of sufficient importance to demand our most serious attention, if not to command our approval. Leaving out of discussion, at the present time, the question of its infectious or contagious nature, which is not as yet settled among the most scientific observers, we must admit that at all events it is *portable*, and subject to quarantine regulations. In support of this I beg to call your attention to some authorities whose evidence, I think, must be convincing.

Dr. Mulig, Physician to the Prussian Embassy, and to the Imperial Naval Hospital at Kassim-pacha, reports as follows :

“The facts speak for themselves. Up to the 28th of June nothing in the hygienic condition of the city (Constantinople) announced an epidemic of cholera. On this day the frigate Mouchbirisourour arrives from Alexandria with cholera sick on board; they are landed at the arsenal, and not five days pass before the first case occurs in a patient from the military workmen’s barracks, situated hardly ten steps from the landing of the arsenal. From this day cases multiply in the arsenal, and on board the vessels anchored there; thus, the corvette Ismir is the first attacked, being at the same time nearest the barracks, and it is only a few days more before the transports anchored a little further off are visited by the disease. The guard of Parmak-capon, at the entrance of the arsenal, and only a few paces distant from the barracks, is roughly dealt with in its turn; finally, the rest of the guard and the workshops are infected. In the meantime the corvette Ismir is towed to the exterior port, where she remains for forty-eight hours; the cholera continuing, she is removed to Bouyouk-timan; several days later, the first case of cholera appears in the exterior port. On the other hand, the citizen workmen employed at the arsenal propagate the disease in Kassim-pacha. If we turn to Yeni-Keny, which is a considerable distance from the point of origin, we find here also that the disease is propagated from the arsenal; for the first established case is that of a stonemason from Kassim-pacha, arriving, already sick, at Yeni-Keny, where he dies the next day, with all the symptoms of cholera. \* \* \* Is it a contagious disease, or do you wish to quibble upon the word? Let us state, then, the fact; it is this: *cholera patients import cholera*. Do you wish an additional proof?

That which has happened to the Marine Hospital may furnish it. The first cases of cholera having stayed at the hospital hardly longer than a few days, the patients remaining there for other diseases were affected, and succumbed under the attacks of cholera. The fourth ward, where the first case of cholera, of local origin, was observed, entered, on the 3d day of July, with simple diarrhea, has furnished subsequently several other cases. Among the employés, the first victims attacked were a nurse of the cholera ward and two washerwomen who cleaned the linen of the cholera sick.

“Cholera does not appear to be contagious by simple contact of the patients ; but the cholera patients rather develop contagion like those affected with small-pox ; with this difference, that whereas in small-pox it is communicated by the skin, in cholera it is through the excretions, especially the stools, that the infection is propagated : thus, the linen stained by cholera patients, houses occupied by them, infected ships may harbor the contagion for a long time, and become the cause of new infections. It must also be observed that the stools of persons suffering from mild manifestations of the disease, from cholerine and cholera, like diarrhea, do not contain the contagion any less than the excretions of those suffering from confirmed cholera ; it is, therefore, easy to conceive why a ship, a building, &c., may be affected without a case of cholera having occurred.”

Dr. Mulig states the following facts relative to the cholera in 1848 : “It was the last week in November, 1848, that it manifested itself at sea, on board of two emigrant vessels, bound the one for New York and

the other for New Orleans, when they had been out the former sixteen days and the latter twenty-seven days from Havre, which was unaffected at the time of their departure. The circumstances attending the nearly simultaneous appearance of the disease in two vessels traversing the Atlantic, and about a thousand miles apart, are among the most curious on record in the history of epidemic cholera. The disease did not extend beyond the limits of the Staten Island Hospital at New York, after the arrival of the infected ship there; but at New Orleans it seems to have spread rapidly, not only in the hospital, but in the city generally, although it did not exist at the time in any other part of the United States. It appeared at Memphis toward the end of December; at St. Louis, in the first week in January, 1849; and at several places in the Upper Mississippi in March; Chicago and other towns situated on the chain of the great lakes were affected in May. It was not till then that New York was visited by the epidemic, notwithstanding the importation of the disease at Staten Island, and the occurrence of several cases in the hospital there six months before. Nearly about the same time Philadelphia and the chief cities on the seaboard of the United States became affected.

“ In 1832 it was developed first in the locality where the first vessel that ever came to this country, with cholera on board, landed her passengers. It followed the arrival of the brig *Amelia*, which put in at Folly Island, on the coast of South Carolina, in a stranded condition; and the only cases there—no cholera having been noticed before—occurred among those who had been employed about the wreck. At Detroit the

first cases made their appearance after the arrival of the steamer Henry Clay, in July, 1832, which had cholera on board. It broke out at St. Michaels, a previously healthy village, on the eastern shore of Maryland, just after the landing of Captain Dodson, who died the morning after his arrival. It appeared among the Indians after the interment of a corpse, dead from cholera, by them. It was brought to Illinois by Captain Blakeman, who had been to St. Louis, where the cholera was, and died of it on his return. It was not seen at Key West until the arrival of the Ajax, in a distressed condition, which had sailed from New Orleans, where the disease was prevailing, and which had the cholera on board at the time."

I quote the following extracts from Kennedy's "History of the Contagious Cholera;" they were taken from the reports of medical officers in India, published by order of the government:

"The cholera first appeared among the inhabitants of this place (Ghooty) immediately after the departure of the first battalion of the Sixteenth Regiment, among whom it had been raging, during their march from Hyderabad, and during their three days' continuance at this station.

"There is one fact certain, that his Majesty's Thirty-fourth Regiment carried it with them from Bellary to Nundydrog, and that there was no trace of the disease in the villages on the road. Since the regiment passed, every village on this road has been invaded.

"A detachment of Europeans from Madras, under the command of Major Wahab, arrived here with the cholera among them. The disease first attacked



these troops at Kistnah, after exposure to a heavy storm of wind and rain, and it continued with them from thence to this place, although all the villages in their route were entirely free from the disorder. During the march sixty individuals perished, of whom eight were Europeans. On its arrival here the detachment encamped about two hundred yards in front of our artillery lines. In this new situation three Europeans and a number of natives died. At this time no case of cholera had occurred in the encampment. The Europeans, however, of Major Wahab's detachment, mingled with our party of artillery, and in the course of four or five days the disease began among the latter. Several were severely affected, but they all recovered through the prompt medical assistance afforded. The next seized was the wife of a conductor in the artillery lines. She was attended for a couple of hours by her friend Mrs. Gray. Mrs. Gray was seized soon afterward, and died the ensuing morning. The son of the latter, a boy about six years of age, was infected the day after his mother died, and recovered. My sub-assistant, Mr. Hoskins, who was constantly with the sick, contracted the disease and died in twenty-four hours. Another acting sub-assistant, Mr. Slevin, who attended particularly to Mrs. Houghton, a patient that had suffered severely, was attacked; and Mr. McDougall, an assistant surgeon, who was much among the sick, was also seized. From the artillery lines the disease traveled to the bazaars, and many of the natives were carried off. The men of his Majesty's Thirtieth Regiment who were in barracks about half a mile to the right of the line, completely escaped, not a man having been affected, or any of the followers.

"I beg to add that Mr. Jones, Surgeon of the Sixth Light Cavalry, has just arrived from the Kistnah, by the same route as Major Wahab's detachment pursued. Mr. Jones states that he found the cholera prevailing in every village, having commenced soon after the passage of Major Wahab's detachment. The inhabitants said they got it from that detachment.

"Of the European patients in Field Hospital for other complaints three were seized with cholera, after patients had been admitted with the same disease. Of these new cases two, one on each side of the ward, were at the part nearest to that which had been appropriated to the reception of cholera patients.

"Orderly Sepoys, attending on the sick, were so generally attacked that their attendance came to be enforced with difficulty.

"The disease has traveled *in the very face of the wind* from village to village, from one military station to another, and *in the exact route of troops*: from Nagpore to Jaulnah, from Jaulnah to Aurungabad and Mulligaum, from Aurungabad to Seroor, and from that to Bombay. It has progressively visited the different villages between this and Hyderabad. At Hyderabad two officers have lately fallen a sacrifice to the malady. One of these had constantly attended the death-bed of the other, and he himself was a corpse forty-eight hours after."

In 1831 Drs. Russell and Barry were sent to Russia, by the British Government, particularly to ascertain if cholera was contagious. Dr. Russel was familiar with the disease, having passed several years in Bengal, and disbelieved in its contagious nature. From the



evidence they obtained at St. Petersburg, both he and Dr. Barry became satisfied that it was contagious. From their official reports the Committee make copious extracts, among which appear the following :

*“City Prison.*—From the moment that the disease was proclaimed, the strictest precautions were adopted ; no person was admitted without medical examination ; rooms were set apart for a cholera hospital, and persons of both sexes appointed to attend the cholera cases, should any occur. Dr. Bish, who resides within the walls of the jail, and who, it must be observed, *was* an anti-contagionist, as acknowledged by himself, showed us a plan of the prison, illustrating the introduction of the disease among the prisoners ; led us round the whole building, and communicated to us the following information from his journal, which had been most accurately kept : ‘ A woman had been sent out some weeks before to be treated for a syphilitic complaint in a public hospital. Her husband was also in confinement at the time, in a different part of the building, but remained. The woman was returned to jail on the 23d of June, O. S., with a diarrhea upon her ; she saw and embraced her husband for a moment as she passed on to be placed in the room of observation. In a few hours she was seized with true cholera, and died that night. This was the very first case. The next persons attacked in the prison were three women in the same room with the former, one of whom had rubbed the deceased. These three died all within three days after the first. The next person attacked was the husband of No. 1 ; he lived in a separate part of the jail. After this man, others in his room ; all numbered on the plan, and registered in Dr. Bish’s journal. In

short, of twenty-seven attacked (fifteen dead), there is but one to whom communication cannot be traced ; he was confined for a capital offense, and had less liberty than the others. There were about four hundred prisoners and attendants ; the former were well kept and treated with great indulgence. None of the noble class, who are lodged in a separate part of the building, were attacked.' ”

Dr. Philip Doepp, Director-in-Chief at the Foundling Hospital, St. Petersburg, reported, as the result of his observation, that :

“The illness did not make its appearance in several sections of the house at once, nor did it attack several individuals simultaneously, but on the 19th one person in A, on the 21st one in B, on the 22d, in C, No. 16, and finally, but only on the 24th, and that singly, in several sections.

“In some of the sections it was late in showing itself ; *e. g.*, in the fully inhabited one, H, not until the 26th, and only on one person ; others have had no sick at all, as N and O.

“In each division at least two days of interval elapsed from its first appearance before more persons were seized.

“In no part of the house did it make its appearance by attacking persons who had been confined to their sections. The persons attacked were always those who went freely about in the house and city, and consequently might receive the infection from out of doors.

“The illness raged with the greatest violence in the sections from which the sick were not promptly removed ; *e. g.*, in A, where No. 1, the first person (a

female) in the whole house who fell sick, remained three hours; in F, almost inhabited by freemen (handicraft), who did not allow themselves to be removed, until they could no longer conceal the complete development of the disease. In F, the family of the coppersmith Ahl, consisting of five persons, three of whom had the disease very severely; they had by entreaties succeeded in obtaining leave for the father not to be sent to the hospital, which was the more readily granted as the family live quite separate, and only the father had any communication with the other workmen. A fourth of the family, a young girl of seventeen, became ill, but so slightly that she has not been recorded."

Regarding the direction and progress of cholera from its source over the world, the Committee say:

"The extension of the disease from Indostan has been gradual, never too rapid to have been carried by man; it has been in all directions, and in continued lines; it has been in opposition to the course of the winds as well as in accordance with that course; it has been *very little influenced either by climate or the season of the year*; and it has continued for many years under all varieties of weather. These circumstances are not in accordance with ordinary non-contagious epidemic diseases. They may be explained on the supposition that the disease is contagious."

Mr. Blogg writes: "I can but think that the cholera was contagious. In one instance, the clothes, mattresses, &c., of the sick, were washed at a fountain, and unfortunately, the waste-pipe being broken, the foul water communicated with the clean; and in one day

sixty people died at Tatavola, a small portion of the city which was supplied by this infected stream."

In commenting on the development and mortality of cholera in the south of London, in 1854, the *Medical Times and Gazette* of October 7, 1865, remarks: "The evidence on this point is not speculative, like most of that which relates to cholera, but is founded on demonstration, and on a larger series of corroborative facts than ever was brought to bear on a medical inquiry."

In the last (December, 1865) number of the *Medical and Surgical Journal* of Buffalo is an article on this subject by Dr. Felix Wiemeyer, Professor of Medicine in the University of Tübingen, Germany, translated from the German by Theo. A. McGraw, M.D., from which I make the following quotation:

"The question whether or not cholera is contagious has been for a long time a subject of debate. It has, however, been stated in a too indefinite and too inexact manner to lead to any positive results. The facts which have been collected together regarding the manner in which the disease is propagated would indicate that it belonged properly neither to the class of contagious nor that of non-contagious disease. It is, on the one hand, certain that cholera is not communicated directly from one person to another, even under circumstances of the greatest intimacy; but, on the other hand, it is as certainly spread only by patients afflicted with the disease. *It is the evacuations of individuals infected with cholera through which probably in all, and certainly in most cases, the disease is propagated.* The admission of this theory, for which we are indebted



to Pettenkofer and Delbrueck, throws light on a multitude of facts hitherto little understood, and apparently contradictory. By means of one infected person, in whom the disease has manifested itself only by an insignificant (seemingly) diarrhea, cholera can be conveyed to a hitherto healthy locality. This person may travel on and recover without further development of the disorder, but he has left behind him, in the water-closet, matter which may give rise to the most deadly epidemic. It is thus no longer inexplicable how the cholera in its wanderings takes no defined course, but spreads indifferently, now from west to east, now from east to west; now with the wind, and now against it; how it always follows the routes of travel, how it does not go from place to place in a shorter time than is required for men to travel the same distance, and how, since the building of railways, it has been able to spread more quickly than before. We can thus, at least in part, explain the great leaps which it has sometimes made. In the localities visited by the disease, the houses and streets in which those infected reside are the places of the greatest danger, because the evacuations are emptied into the neighboring privies and sewers. It is not seldom that a single house or street is even for a long time the only infected locality, and that those inhabiting it are alone seized by the disease. But while those buildings and avenues first visited by the cholera are being depopulated, the poison sooner or later is communicated to other houses and streets in the neighborhood, partly by means of common privies and partly by other ways which we cannot always discover. Often, at the end of an epidemic, the cholera rages in a portion of the city which at its begin-

ning was completely spared, while those wards which at first were decimated by the disease are then entirely free from it. Similar experiences have been made in all places where the epidemic has raged, although in densely crowded cities the observations are, of course, made with more difficulty than in thinly settled villages.

“ I can cite one fact, from the Magdeburg epidemic of 1859, which speaks for the correctness of Pettenkofer's views. The cholera was brought into Magdeburg in this year by means of a transport filled with recruits from Stettin, which was at that time visited by the disease ; and during the first week after their arrival cases occurred only in the street in which the sick recruits had their quarters for the night. In Greifswald, a small and thinly built place, I was able, in a little epidemic which I had an opportunity to observe, to prove in every instance that the individuals attacked with the disease had used the privies of the houses in which there were cholera patients, or into which cholera discharges had been emptied.”

This theory of Pettenkofer and Delbrueck satisfactorily explains certain facts observed by Dr. Rich at the Cholera Lazaretto in the Balearic Islands, and at Malta in 1834. Dr. Rich states that he there observed that the persons who had charge of the privies and the dejections of the patients, were most likely to be attacked by the disease, and suspected that this was the principal source of its propagation. Having observed in Sicily that the choicest wines were preserved from evaporation by being placed in jars, and covered with an inch of olive oil in place of a cork, he conceived the idea of constructing receptacles for all the

dejections to be covered with oil in the same way, and thus prevent the escape of noxious gases. He made for the purpose large vessels partially filled with water, and poured on it one inch of common fish oil. Into these vessels all the excretions and soiled clothing were placed, and a jet of chlorine gas forced into them to saturation before they were permitted to be handled by the assistants. After the adoption of this plan not a case occurred among the assistants who had charge of this department of the hospital, whereas previous to its adoption they had died at the rate of from two to five a day.

Dr. Marsden, formerly President of the College of Physicians and Surgeons, of Lower Canada, lays down these propositions regarding cholera :

“1st. That it is a communicable and controllable disease.

“2d. That its cause is not in the atmosphere, nor communicable through it, except by a near approach.

“3d. That it accompanies human travel and human traffic.

“4th. That it progresses only at the rate of vessels across the ocean, but *never precedes them*.

“5th. That it is transmissible by clothing and effects, as well as by passengers.

“6th. That it never appears in a new locality without communication, directly or indirectly, with an infected person or place ; and, lastly, that it may be arrested, like the plague, by an absolute quarantine of *short* duration.”

These propositions agree with those submitted by

M. Alexander Moreau de Joines, in 1831, in a report made to the Consul Superieur de Santé in Paris, on pestilential cholera ; he says :

“ These facts establish, contradictorily to the opinion which attributes the disease to an epidemic cause resident in the atmosphere :

“ 1. That the pestilential cholera proceeds from a germ, a principle *sui generis*.

“ 2. That it transmits itself exclusively by communication with individuals who are infected by this gerin, and by the use of things which conceal it.

“ 3. That it appears only in places where these communications operate.

“ 4. That it is imported from one place to another by vessels-of-war, ships of commerce, caravans, wagon trains, armies, bands of pilgrims, fugitives, and single or isolated individuals.

“ 5. That it spreads itself on board ship by the communication of their crews with individuals or things which are infected with it, and that it is introduced by them into the port where they stop on the way, or into the ports of their destination.

“ 6. That it spreads from the points on the coast infected in this manner, across the interior of the largest countries, following men in all their communications and propagating itself with a rapidity proportionate to the activity of the social relations.

“ 7. That it penetrates invariably into a country by the part of its frontiers which is in communication with other countries already infected ; and that it introduces itself into a city through the quarters of which the



inhabitants are in communication with places which it has already ravaged.

"8. That, in order to preserve a port or a city on the frontier, it is sufficient to watch or to interdict the arrival of the ships or travelers coming from countries where it reigns.

"9. That, in order to guarantee a mass of individuals inhabiting a city where it has introduced itself, it is sufficient to separate them from the rest of the population, and to prevent their having any communication.

"10. That the atmospheric air is to such a degree powerless to propagate it at a distance that a family, a party of persons, can live with security in the midst of its ravages in the city, in the country, where it causes the most terrible mortality, provided they be strictly sequestered before having been exposed to its action, and until the moment that it has entirely ceased.

"Whence it follows that the oriental cholera transmits and propagates itself, like the plague, by mediate and immediate communications with individuals who are infected with it, which constitutes the character, proper and essential, of contagious diseases, and makes them differ entirely from epidemic diseases, the causes of which reside in the atmosphere."

The following is a letter from Dr. Henry E. Bartlett, formerly Health Officer of this city, to the Hon. C. Godfrey Gunther :

"WALTON, DEL. Co., N. Y

"November 13, 1865.

"*Hon. C. Godfrey Gunther, Mayor, &c. :*

"SIR—I see that the proper authorities have under consideration measures to be taken with a view to

prevent the introduction of cholera into the city from vessels now arriving from ports in Europe, &c., where that disease is prevailing.

“Being Health Officer of the port of New York in 1854, the time of its (the cholera) last visitation, I have thought that a statement of the facts in relation to its appearance at the quarantine at that time might be of some aid in enabling you to take efficient measures to secure the desired object. Being facts, they point very significantly to the only plan to be adopted to prevent the introduction of this deadly malady from our ship-board. You will recollect that 1854 was the year of great immigration, the number of vessels arriving in the month of May alone being four hundred and twenty-four. The first cases of cholera were found on the North American, which arrived on the 15th of May, having left Liverpool, where the cholera then prevailed, on the 14th of April. There had been no sickness until the vessel had been more than two weeks at sea. While crossing the Banks cholera made its appearance. The ship was detained, and the passengers all landed their baggage and clothing, thoroughly cleansed and disinfected, and none were allowed to leave until no new cases had appeared for two days. They were detained about a week.

“On the 17th, the Progress arrived, having left Liverpool with seven hundred immigrants. Thirty-nine died on the passage, and eighty cases were taken from the vessel, and new cases were hourly occurring. The well passengers from this vessel as well as from the Empire were placed in the grounds around what was then called the Hill Hospital, and the sick with that disease placed in that building, being about twelve

or fifteen rods south of the shanty-buildings in which were placed the cases of typhoid fever, most of whom were at the time convalescent.

“About the same time the ships Charles Hill, the Plymouth, the Robert Parker, the G. J. Patten, and some others, arrived from Havre, all having a large number of cases of small-pox of a very malignant type. These were all placed in the Small-pox Hospital, situated in the northwestern angle of the quarantine grounds, at least eighty rods from the hospital and grounds where the sick and well from the cholera ships were placed. The passengers and their effects from these vessels were subjected to a very thorough process of cleansing and disinfecting, and allowed to leave for the city. No cases of cholera were subsequently traced to them ; but the convalescent patients, in the shanty-buildings, who were recovering from typhoid fever, began to die of cholera, and in less than one week seventy-five per cent. of the patients in the Small-pox Hospital died of cholera.

“On the 21st of May the Dirigo arrived from, I think, Glasgow, with a small number of emigrants. On her passage she took from the wreck of a vessel from Liverpool about thirty passengers. There had been no cholera in the wrecked vessel, and the persons taken from her saved only the clothing upon their persons. The vessel being healthy, all were allowed to go up to the city. Some of the first cases of cholera that occurred in the city were traced to these wrecked emigrants. From the above facts, the following conclusions are to be deduced with entire certainty :

“*First*, that with thorough cleansing and disinfecting (by chlorine or otherwise) of the baggage, clothing, or

other effects that have been in contact with the secretions or excretions (or emanations from them) of cholera patients, the further development of the disease may be prevented.

“*Second*, that, unless the most entire isolation of all passengers in vessels from ports where the cholera prevails is enforced while this is being done, the disease is sure to manifest itself in the vicinity sooner or later.

“Speculations as to the contagion or non-contagion, infection or non-infection, of the disease, are of no practical importance whatever.

“Very respectfully, yours,

(Signed)

“HENRY E. BARTLETT,

“*Ex-Health Officer.*”

Dr. Marsden, of Quebec, in a letter to me, dated December 5, 1865, relates the case of one John Wilson, as follows :

“John Wilson, the celebrated vocalist, died of Asiatic cholera, on the 9th of July, 1849, in St. George’s Hotel, of that city, kept by a Mr. Russel. On the death of the patient, I desired Mr. Russel, the proprietor, to destroy the body clothing that was about him when he died, as well as the mattress, which was saturated with the secretions, which order, as regards his clothing, was acted upon. I then superintended the disinfecting of the rooms, &c. The mattress, however, being new or nearly so, and of fine hair, was not destroyed, but removed to the roof of the hotel in Palace street (also kept by Mr. Russel), contrary to his orders and without his knowledge, where it re-

mained for some weeks exposed to all weather, until the unfortunate man who removed it there, one Bartholomew Bleers, a kind of jobbing upholsterer, living in St. Stanislaus street, told Mr. Russel what he had done, and asked to be permitted to tear out the hair, and wash it, and remake the mattress. On Mr. Russel's refusing to comply with his request, Bleers said he was not afraid of cholera, and if Mr. Russel would permit him, he would take it home and clean and disinfect it for himself. Although again ordered to destroy it, he nevertheless took it home to his lodgings, No. 19 St. Stanislaus street, and commenced tearing out the hair. Before he had done more than one-half, he was attacked with cholera, died in a few hours, and was buried the same day ; when his widow (who is now living) caused it to be destroyed."

Dr. Marsden also, in his valuable suggestions relative to the establishment of an efficient quarantine, says :

"The greatest care must be taken in cleaning and disinfecting personal effects and clothing, as these contain the latent seeds of infection, under certain circumstances, for an indefinite period. Body clothing and bedding on which persons die of cholera should be destroyed or buried with the body. Everything that is saturated or soiled by the secretions from the bodies of persons who die of cholera is highly infectious and dangerous to the healthy."

In another letter he says :

"There are two modes by which Asiatic cholera is communicated, by *persons* and by *personal effects*. In the former, *i. e.*, in *person*, Asiatic cholera usually

breaks out on board ship within the first two or three days after leaving an infected place, but NEVER AFTER THE SIXTH DAY. This is one of my observations of *facts* connected with Asiatic cholera, and I have repeatedly advanced it before ; and I call upon the whole civilized world to produce a FACT to the contrary, In the case of personal effects, the disease may be latent, and lie dormant for months, and then suddenly develop itself. The first case of this kind was brought to my notice by my late lamented and valued friend, Dr. Morrin, early in 1833, and was the case that gave me the first glimpse of the probable infectious character of Asiatic cholera. I cannot at this moment lay my hand upon the paper containing the facts, but they are indelibly impressed upon my memory from their striking character. A sailor died in some port in Europe, of Asiatic cholera, in 1832. A chest containing his *personal effects*, clothing, &c., was sent home to his family, who lived at a small straggling village on the Atlantic coast, in the State of Maine. It reached them about Christmas, 1832, and was opened on arrival. The inmates of the house were all immediately and suddenly seized with a disease resembling Asiatic cholera in all its malignity, and died ! There had been no cholera in the State. Had this occurred in summer instead of in the depth of winter, and in a more thickly peopled locality, there would doubtless have been a repetition of the recent Guadaloupe tragedy, by which a whole country became infected from the clothing of persons who had died of Asiatic cholera, which had been sent ashore to be washed. In this case, had the infamous conduct of the pilot who sent the things secretly on shore not been discovered, the case would

have been handed down as a wonderful non-contagious fact of Asiatic cholera breaking out without infection or importation. Of the vessel that sailed on the 9th of November, 1848, from Havre for New York, the facts were remarkable, and are these: When the vessel referred to (the ship *New York*) reached the northern Atlantic coast, near Cape Sable, the weather became cold and boisterous. Among the passengers were a number of German emigrants, who came from a place where cholera prevailed, and had been among it. One of them had a chest of clothing which belonged to a person who had died of cholera. The chest was opened, the clothing taken out and used, and on Tuesday, the 22d of November a child was taken ill at 2, P. M., and died at 8, P. M.; and a second child died with similar symptoms. On the following Wednesday or Thursday four men were reported sick, two of whom died suddenly with symptoms of cholera. A third died from what was regarded as a case of dysentery. Twelve were landed at the Quarantine Station, at Staten Island, of whom three died, &c."

The *London Lancet* (Wakley's) for 1834-35, volume xxvii., page 314, has an article from the pen of William Lardner, Esq., Surgeon to the Marine Hospital, Lisbon, who was a non-contagionist at the time. Notwithstanding his leanings, he shows unmistakably that Asiatic cholera was introduced into Portugal by the "London merchant steamer with General Solignac and his Belgic followers."

The following fact strongly favors the doctrine of contagion: In 1832, the *then* town of Three Rivers, equidistant from Quebec and Montreal, where steamers



were in the habit of touching, and landing and embarking passengers daily, established an impromptu system of quarantine, founded on non-intercourse, preventing any person from landing there during the prevalence of cholera ; and *not one case occurred there, while Quebec and Montreal numbered the dead by thousands !!!*

The following letter from Dr. James S. Knox, is of interest as pertaining to this subject, and I quote it in full :

“NEWTOWN, L. I.

“DR. SAYRE :

“*Dear Sir*—Noticing your desire to lay before the Board of Health facts relative to the cholera, I am satisfied that any information upon this disease where it has ravaged will be received by you with pleasure.

“My father was pastor of the Reformed Dutch Church, St. Thomas, W. I., when the cholera visited that island, and carried away over one-ninth of its inhabitants. Having had access to his journal, and also having received his personal explanation of his written observations, you may rely upon the facts stated.

“Early in December, 1853, an emigrant ship from Europe, bound to New Orleans, appeared in distress off the northwest end of the island, opposite Estate Hull. She was boarded by negroes from the estate, who, for services rendered, received the clothing of some passengers who had died during the voyage. Under their direction the ship came round to the south side, and entered the port of St. Thomas. There was no apparent sickness on board, and during the two



weeks that the vessel remained in harbor the emigrants repeatedly came ashore and mingled freely with the inhabitants. On the 16th of December, five deaths occurred suddenly on Estate Hull, and the attending physicians pronounced the disease Asiatic cholera. The Island of St. Thomas is three miles in width by twelve miles long, consisting of a range of hills, from 1,400 to 1,700 feet elevation, and running due east and west. Estate Hull lies on the northwest end of the island, and from this point, *passing over the hills and against the trade winds*, the cholera traveled, touching upon intervening estates, until, on the 23d of December, it reached the west end of the town, still passing *eastward* until the whole island was invaded. It raged forty-five days, and out of a population of 13,666 over one-ninth, or 1681, died, mostly negroes. No account was kept of those attacked. The mortality seemed to be confined to certain localities. The town is built on four hills. Through the intervening valleys ran gullies, which were the common receptacle of all excrement and garbage. But few of the houses had sinks or privies; and in the ravines the filth was thrown nightly. The whites occupied the hills, the negroes densely populated the valleys. The whites were seldom attacked, the negroes perished by hundreds. Among them terror, through ignorance and superstition, seemed a strong predisposing cause of attack.

“From this statement, the following facts are evident: The disease originated in infected clothing, and was in no way communicated by the emigrants in the harbor. It progressed *against the wind, and suffered no obstruction from a high range of hills*. The

mortality was greatest in those localities where human excrement and filth were accumulated, and among those who lived in filthy and overcrowded houses.

“Very respectfully,

“Your obedient servant,

(Signed)

“JAS. S. KNOX.

“*Col. Physicians and Surgeons.*”

The fact which has been established by the detention, in quarantine, of the steamship Atlanta, within seven miles of our shore, with the wind, for the most of the time, setting from that place toward the city, proves most conclusively that it is not an epidemic disease, and does not travel with great rapidity, as some authors would try to convince us. The disease is one that is, *sui generis*, created in India, from whence it has spread to other portions of the world, always following the channels of trade and commerce; and in the visitation of the disease upon this continent it can be traced distinctly to importation. It has never been generated on this continent, and can only exist here by importation. But the filthy condition of the city, with its crowded houses, and absence of proper sanitary regulations, will greatly multiply and increase its ravages, it once being introduced. These sources of propagation do exist, as all must admit who are acquainted with the sanitary condition of the city, in great abundance; but yet they do not generate cholera. They are nuisances which should be abated, as they do generate other diseases, and would materially add to our dangers if cholera were to be accidentally admitted. But a keg of gunpowder may remain in your basement without

danger, unless it be ignited ; it may remain there for all time, but never explode until the match is applied. So with these nuisances which already exist in the city ; they are not the sources of cholera, and, whatever other diseases they may produce, they will not develop cholera until the specific poison of cholera is introduced, by which the powder is ignited. These sources, all must admit, have been in abundance in the past five weeks, and yet the match (cholera) has been kept in the bay, and by this means the explosion has been prevented. Many persons attribute this prevention to the fact that it is in the winter season, forgetting that in Russia, where it is colder than we have ever known it here, it has produced its most fearful ravages in midwinter ; showing that it is a disease uninfluenced by temperature, and can as easily be introduced into New York in midwinter as in midsummer. And introduced, it would produce more frightful ravages at this season than in the summer, from the fact of our overcrowded tenement-house population. Walking through our streets lined by rows of tenement-houses, on a summer day, you will notice, from basement to attic, every window thrown open, and three, four, or more heads pushed out. These persons who are apparently gazing at the little incidents upon the street have instinctively pushed their heads out of the window for wholesome and healthful respiration. In midwinter they cannot do this and obtain the advantage of the fresh air ; but they draw their heads within their holes, and, unable to supply the proper amount of fuel to keep their houses warm and retain their windows open, they calk up all holes and crevices with blankets and old clothes, for the purpose

of sustaining a comfortable temperature with the least expenditure of fuel, thereby rendering the air they breathe so poisonous as to endanger their lives more than the heats of summer and the unripe vegetables upon which they may feed at that season.

But New York is accessible by land as well as by sea, and unless these same quarantine regulations are enforced in every seaport town upon the entire coast there is no security ; but the disease, being imported into some of these seaport towns, may come to us by railroad communication. We, therefore, see the necessity for Congress or the General Government taking possession of this matter, and enforcing a uniformity of quarantine regulations at every port of entry. The Government establishes a port of entry, collects revenue, and has the right to close the port of entry, and should, therefore, perform the duties connected with a port of entry, one of which is a proper quarantine establishment, kept under military regulation, by which it may be rendered uniform and efficient. It sometimes happens that the port of entry, as in our own city, lies upon a river bordering on two States, and the port may be in one State, and the most advantageous place for a quarantine under the jurisdiction of another. This conflict of jurisdiction renders it essential that it should be placed under the control of the General Government. The General Government would not hesitate to take possession of any place where it could best protect the country from an invasion by a foreign foe, irrespective of State boundaries or State jurisdiction, were it to come in the form of an armed fleet. How much more necessary, then, that the same precautions should be taken

against a secret foe of pestilence and poison, vastly more destructive to human life than a fleet equipped with Armstrong guns! As there are also many ports of entry, it is necessary that the General Government should assume this control, in order that their action should be uniform. We have already received an official communication (City Document No. 95, of city of Boston) from Boston, dated November 11, 1865, that, "under a deep sense of their responsibility in expressing their opinion, the Consulting Physicians unequivocally declare their convictions that the disease is neither contagious nor infectious; that it cannot be propagated by being near the sick, nor by handling the secretions or excretions from bodies of the sick or of the dead. The disease is epidemic, and cannot be restrained or controlled in its progress by quarantines or cordons of any kind. It can be controlled by temperance, chastity, and, above, all by perfect cleanliness, and by these only.

"The Consulting Physicians, being of the opinion that neither quarantines by sea nor sanitary cordons by land have ever been found, or can be made, effectual in protecting cities or communities from the visitation of cholera, recommend that no such restrictions be made; but in order to produce tranquillity in the public mind, and from respect to the opinions of those who think differently, they think it might be well that vessels coming from places in which the disease exists should be made subject to the visitation of the Port Physician, but that none of the passengers or crew should be in any way restrained from freely communicating with their friends on shore,

or with the city, or from landing at any time with their personal baggage and effects ; and no vessel should be detained in quarantine longer than is absolutely necessary to put her in a cleanly condition.”\*

Dr. Snow, another very prominent sanitarian of Providence, has published a pamphlet to the world at large, containing similar views.

In opposition to these views of Boston and Dr. Snow, I would state one more fact, which was communicated to me recently by Capt. E. C. F. Montague, of the Third Dragoon Guards, who has served in India, where cholera is endemic, and who has seen thousands upon thousands of cases. He states that “it is a military custom to place any village or town where cholera appears under military cordon, and prohibit any ingress or egress ; and in no instance has the disease escaped the cordon where the picket duty

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\* While this report was in the printer's hands, the following, in City Document No. 21, from city of Boston, 1866, has been received from Dr. William Read, City Physician. “Since then (November 11, 1865, date of City Document No. 95) evidence has been accumulating so direct in its bearing upon this point, and from sources so reliable, that I have been compelled to change my opinion. The vital importance to this community of thoroughly appreciating and clearly understanding the modes by which cholera is propagated from one locality to another, as noticed abroad, and a deep feeling of my own responsibility in the matter, has induced me to lay before your Honorable Body, somewhat at length, the evidence upon which this change of opinion has been based.

“The sources of this evidence are the medical journals of this country and Europe, especially the *London Medical Times and Gazette*, and the *Archives de Générale de Médecine* of Paris, in which are to be found reports and papers upon this disease and its progress from the earliest history to the present epidemic; many of them written on the spot where the epidemic was raging, and accepted by the profession at large as entirely credible authority.”

This document is filled with most valuable statistics, many of which we have also referred to, which contain evidence conclusive and indisputable of the portability of the disease.



was rigidly enforced. He personally picketed the town of Ahemnebad, in June, 1864, and has frequently done the same in other places." Here is the personal observation of an individual who has for eight years witnessed the disease ; and, although not a medical man, his practical experience is of more importance than our opinion, when we have seen and know so little of it, and until we are perfectly acquainted with its causes, character, and nature, it is but right that we should give the people the benefit of caution and protection, particularly as we have had proof within the last few weeks that it is capable of being quarantined and controlled.

Boston, being a port of entry, and having promulgated, in pamphlet form, to the merchants of this city their views upon this subject, may induce into their harbor commercial intercourse, and the disease be disseminated throughout the country by railroad communication. It is, therefore, patent that it is a necessity that the General Government should assume jurisdiction in this matter, as the General Government is responsible for the protection of the entire nation; and by convention with Canada and the British Provinces a uniformity of quarantine could be established upon the entire coast, and thus the continent be protected from this terrible scourge.

That the detention of passengers in vessels within the harbor was compelled to be done of late, I regret as much as any one can ; but under the circumstances it was a necessity, on account of the want of proper quarantine regulations. But these regulations can be modified so as to make quarantine not only a protec-

tion to the people, but to the passengers themselves ; and, as an act of humanity, it is the duty of the Government, either State or National, to immediately enforce them. The plan of quarantine suggested by Dr. Marsden, with some slight modifications, is the most perfect I have yet seen that could be adopted ; and I would earnestly recommend the Government to adopt it as a uniformity along the entire coast.

Congress has recently very wisely enacted a law to prevent importation of disease among our cattle ; how much more necessary that it should enact a law which would enable us to prevent this plague and others from being imported among our people !

While we are thus using every precaution to guard our city against the *importation* of this and other diseases, we should *use more than ordinary vigilance in perfecting its internal sanitary condition*. As personal, house-to-house inspection is the only means of obtaining accurate information of the sanitary condition of the people and their dwellings, this duty should be frequently performed, and in most instances should be done by competent medical men. And I, therefore, suggest to the proper authorities the propriety of adding to their sanitary corps a properly organized medical staff of visiting inspectors.

The medical men connected with our different dispensaries, who are now daily visiting the houses and places where inspection is most required, I would most respectfully suggest as the proper persons to fill this position. And thus, clothed with the proper authority to enforce their directions, they could, in many instances, give such advice and suggestions in the pre-



monitory symptoms of many diseases, as to prevent their further development, and thus add greatly to the security of the city against the spreading of any epidemic.

All of which is respectfully submitted,

LEWIS A. SAYRE, M.D.,

*Resident Physician.*

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